2016
Major Automated Information System
Annual Report

Mission Planning System Increment 5 (MPS Inc 5)

Defense Acquisition Management
Information Retrieval
(DAMIR)

Table of Contents

Common Acronyms and Abbreviations for MAIS Programs

Acq O&M - Acquisition-Related Operations and Maintenance
ADM - Acquisition Decision Memorandum
AoA - Analysis of Alternatives
ATO - Authority To Operate
APB - Acquisition Program Baseline
BY - Base Year
CAE - Component Acquisition Executive
CDD - Capability Development Document
CPD - Capability Production Document
DAE - Defense Acquisition Executive
DoD - Department of Defense
DoDAF - DoD Architecture Framework
FD - Full Deployment
FDD - Full Deployment Decision
FY - Fiscal Year
IA - Information Assurance
IATO - Interim Authority to Operate
ICD - Initial Capability Document
IEA - Information Enterprise Architecture
IOC - Initial Operational Capability
IP - Internet Protocol
IT - Information Technology
KPP - Key Performance Parameter
$M - Millions of Dollars
MAIS - Major Automated Information System
MAIS OE - MAIS Original Estimate
MAR – MAIS Annual Report
MDA - Milestone Decision Authority
MDD - Materiel Development Decision
MILCON - Military Construction
MS - Milestone
N/A - Not Applicable
O&S - Operating and Support
OSD - Office of the Secretary of Defense
PB - President’s Budget
RDT&E - Research, Development, Test, and Evaluation
SAE - Service Acquisition Executive
TBD - To Be Determined
TY - Then Year
U.S.C- United States Code
USD(AT&L) - Under Secretary of Defense for Acquisition, Technology, & Logistics

Program Information

Program Name

Mission Planning System Increment 5 (MPS Inc 5)

DoD Component

Air Force

Responsible Office

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References

MAIS Original Estimate

This investment does not have an approved program baseline; therefore, no Original Estimate has been established.

Program Description

The Mission Planning Systems (MPS) program, formerly the Air Force Mission Support System (AFMSS), is a family-of systems that provides automated support for flight and weapons delivery planning. The requirements for mission planning have grown as the complexity of the individual weapon systems has increased. In 1994 this growing complexity was recognized by the Senate Committee on Armed Services which requested that the Under Secretary of Defense (Acquisition) survey the Department's mission planning systems used for weapons systems and outline a plan for consolidation and coordination of current and future systems. The result of that survey was the long-term consolidation of the Navy's Tactical Automated Mission Planning System and Air Force's AFMSS program into a single mission planning system as the program of record. The program includes the Unix-MPS established in 1990, the PC-based Portable Flight Planning Software (PFPS) added to the program in 1996, and the new mission planning system commonly referred to as the Joint Mission Planning Systems (JMPS) established in 1998.

The objective of the MPS program is to migrate platforms from legacy Unix-MPS and PFPS to a seamless, collaborative, single multi-service PC-based system operating in a net-centric environment. Mission planning is the development of a detailed flight plan based on threats, targets, terrain, weather, aircraft performance capability, and configuration. It is an essential task that must be performed prior to any fixed-wing or rotary-wing aircraft sortie. The planner must have the ability to plan weapon, cargo, passenger, and/or fuel delivery; calculate aircraft fuel requirements; and assess the route based on known enemy threat location and type. Mission planners must be able to optimize and de-conflict flight routes with other aircraft; review, print, and brief the mission plan; and download pertinent flight information to on-board aircraft avionics. JMPS will assist crew members with mission planning and enhance the user's real-time situational awareness. JMPS will support operational missions and improve effectiveness by enabling the exchange of information between the warfighters, aircrews, and operational planners at tactical and strategic echelons.

MPS Increment 5 (Inc 5) is a continuation of the previous MAIS program, MPS Inc 4. The efforts that comprise MPS Inc 5 were originally started in MPS Inc 4 (MS B, 2006) and subsequently removed at a major Program Restructure. When funding became available these efforts were restarted as Acquisition Category (ACAT) III programs (post MS B, 2012): (1) Air Mobility Command (AMC) Transition to MPS, (2) the Special Mission Air Combat Command ,Combat Search and Rescue (SMACC CSAR), and (3) the Mobility Air Forces Automated Flight Planning Service (MAFPS) programs. The first MDD for AMC transition to MPS occurred in April 2012. In March 2015, the Air Force requested approval to restructure the three ACAT III programs already in Engineering and Manufacturing Development phase to a single MAIS program titled MPS Inc 5.

This report covers the MPS Inc 5 program. MPS Inc 5 will transition AMC Airlift (C-5), Tanker (KC-135, KC-10), and Air Drop (C-17, C-130) platforms from their legacy PFPS system to the MPS. It will also replace AMC's Tanker Airlift Control Center (TACC) legacy Advanced Computer Flight Planning (ACFP) System with the MPS-based MAFPS System. Finally MPS Inc 5 will transition CSAR (HH-60 and HC/MC-130) platforms from their legacy PFPS-based system to the MPS.

Business Case

Business Case Analysis, including the Analysis of Alternatives: Key functional requirements for this program are articulated in the CDD dated March 20, 2006. Recognizing that the two core Air Force systems needed to be integrated into a single system, an Analysis of Alternatives (AoA) was done and presented to the Chief of Staff, US Air Force, on May 25, 1999, who subsequently approved the decision to proceed with an integrated core system. An Economic Analysis, to refine earlier AoA and Business Case Analysis efforts, was completed as part of the CDD development, which was approved by the Air Force Chief of Staff on March 20, 2006.

Firm, Fixed-Price Feasibility: A cost type contract was selected because development tasks are sufficiently complex and technically challenging that it is impossible to precisely estimate the cost of satisfying the requirements; and, it is not practicable to reduce cost risk to a level that would permit the use of a fixed-price contract. The determination of the development/integration contract type was based on cost and technical risk associated with satisfying the requirement.

Independent Cost Estimate: The program has not experienced a Critical Change which would induce the independent cost estimate required by 10 U.S.C. 2334(a)(6).

Certification of Business Case Alignment; Explanation: The Mission Planning System (MPS) Increment 5 (Inc 5) does not require a Certification of Business Case alignment; MPS Inc 5 is more than 75% through development and follows the same strategy as employed in the completed MPS Increment 4. Details can be located in the Acquisition Strategy approved in conjunction with this increment.

Program Status

No Baseline: This Automated Information System Investment has not yet been baselined. The information provided herein is appropriate to the current status of the program. No Original Estimate is being established by this report.

Schedule

This investment does not have an approved program baseline. Therefore, the information provided here does not constitute an Original Estimate.

Memo

MPS Inc 5 Milestones:

- MDD (Objective (O)/Threshold (T)) : Apr 2012 / Apr 2012
- Preferred Alternative Selected (Funds First Obligated (FFO)) (O/T) : Mar 2013 / Mar 2013
- MS B (O/T) : Apr 2012 / Apr 2012
- MS C (O/T) : N/A / N/A
- FDD (O/T) : Sep 2017 / Mar 2018
- FD (O/T) : TBD / TBD

Footnotes:

1. MDD for Air Mobility Command (AMC) Transition (April 20, 2012) serves as the MDD for the Mission Planning System Increment 5 (MPS Inc 5) program. The C-17 Blocks 17/18 is designated as the representative platform of MPS Inc 5.
2. The Preferred Alternative Selected date of March 2013 was the commencement of the five year clock as stipulated per Title 10 U.S.C, Chapter 144A. This date is used in lieu of MS A, and reflects the FFO for MPS Inc 5 software development.
3. No MS C is planned for MPS 5 per model 3 "Incrementally Deployed Software Intensive Program" as described in the DOD Instruction 5000.02, January 7, 2015.
4. FDD provides approval to field the representative platform of MPS Inc 5 - AMC Transition (C-17 Blocks 17/18).
5. FD is TBD. The FD date will be established in the FDD ADM.

Performance

This investment does not have an approved program baseline. Therefore, the information provided here does not constitute an Original Estimate.

Performance Characteristics	
Development Objective/Threshold	
Route Manipulation[1]	
MPS shall provide the capability for a user to create, store, retrieve, modify and manipulate one or more routes, route segments and/or points graphically over a chart or imagery display and edit point-type and leg-type properties.	(T=O) MPS shall provide the capability for a user to create, store, retrieve, modify and manipulate one or more routes, route segments and/or points graphically over a chart or imagery display and edit point-type and leg-type properties.
DTD Upload/Download[2, 5]	
MPS shall support data transfers between Mission Planning Systems and platform DTD within platform specified timelines with no errors or omissions.	(T=O) MPS shall support data transfers between Mission Planning Systems and platform DTD within platform specified timelines with no errors or omissions.
Process Timing[3]	
MPS shall provide the user with all materials required to execute the mission and perform all constraint checking as required by platforms, within platform specified timelines.	(T=O) MPS shall provide the user with all materials required to execute the mission and perform all constraint checking as required by platforms, within platform specified timelines.
Net-Ready[4]	
The system shall support execution of the critical mission threads as well as all mission threads identified in the system's integrated architectures and satisfy the technical requirements for Net-Centric military operations to include: 1) DISR mandated GIG IT standards identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW-RM services identified in the OV-5, 4) Information assurance requirements including policy enforcement controls, data correctness, availability, and issuance of an IATO by the DAA, and 5) Operationally effective system data exchanges and mission critical performance and information assurance attributes identified in the SV-6.	The system shall support execution of the critical mission threads identified in the system's integrated architectures and satisfy the technical requirements for Net-Centric military operations to include: 1) DISR mandated GIG IT standards identified in the TV-1, 2) DISR mandated GIG KIPs identified in the KIP declaration table, 3) NCOW-RM services identified in the OV-5, 4) Information assurance requirements including policy enforcement controls, data correctness, availability, and issuance of an IATO by the DAA, and 5) Operationally effective system data exchanges and mission critical performance and information assurance attributes identified in the SV-6.

Memo

Requirements Source:
CDD v1.2 signed March 20, 2006.

Acronyms and Abbreviations

CNS/ATM - Communication, Navigation, Surveillance/Air Traffic Management
CSAR - Combat Search and Rescue
DAA - Designated Approval Authority
DISR - DoD Information Technology Standards and Net Profile Registry
DTD - Data Transfer Device
GIG - Global Information Grid
IATO - Interim Authority to Operate
Inc - Increment
IT - Information Technology
KIP - Key Interface Profile
KPP - Key Performance Parameter
MAFPS - Mobility Air Forces Automated Flight Planning Service
MPS - Mission Planning Systems
NCOW RM - Net Centric Operations and Warfare-Reference Model
O - Objective
OV - Operational View
SMACC - Special Mission Air Combat Command
SV - System View
T - Threshold
TV - Technical View

Funding

This investment does not have an approved program baseline. Therefore, the information provided here does not constitute an Original Estimate. The following funding data is extracted from the FY 2017 President's Budget documentation.

MPS Inc 5				
Fiscal Year	**RDT&E (TY $M)**	**Procurement (TY $M)**	**MILCON (TY $M)**	**Acq O&M (TY $M)**
2016	19.7	0.0	0.0	0.0
2017	3.8	0.0	0.0	0.0
2018	0.8	0.0	0.0	0.0
2019	0.0	0.0	0.0	0.0